

REMARKS***Rejections under 35 U.S.C. §112 should be withdrawn***

Claims 13-30 are rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. Specifically, the Examiner alleges that “a step of selecting probes which target exemplar or target sequences for designing a probe array is a new matter.” Applicants respectfully disagree and traverse this rejection.

Applicants respectfully submit that it would be apparent to one skill in the art that the candidate sequences are target sequences as they represent transcript sequences. Probes could be selected to target candidate exemplar or consensus sequences (the probe sequence can be the same as or complementary with that of an interested region of the candidate sequences). This is well known in the art and also taught in the specification and numerous patent documents cited in the specification. For example, as taught in the specification (e.g. Page 5) “if transcripts of genes are the interest of an experiment, the target molecules would be the transcripts”, “frequently, a target molecule is detected using one or more probes” and “a probe is a molecule for detecting a target molecule”. The claimed methods provide an approach “to select target sequences from various sources and process them for designing a probe array” (e.g. Abstract). The specification also provides teachings about how one skill in the art could design a probe array (i.e. select probes and design masks for probe synthesis, e.g. Page 12, lines 19-25 and Figure 4) wherein probes are to be selected which target exemplar or consensus sequences. Therefore, the specification provides ample support for the step of selecting probes targeting the candidate sequence and this rejection under 35 U.S.C. 112 should be withdrawn.

Claims 13-30 are also rejected under 35 U.S.C 112, second paragraph as allegedly being indefinite. The Examiner states that Claim 13 is indefinite for failing to recite where or from what set the probes are to be selected from. Applicants respectfully disagree. As taught in the Specification, e.g. Page 12, a "sequence selection process generates candidate sequences for probe selection." The specification teaches in great details how to select candidate sequences e.g. Page 12 to 29. Also, Figure 5 shows an exemplary process for sequence selection for expression probe array.

For the reasons above, Applicants respectfully submit that the specification provides detailed teaching where and from what set to select probes. Therefore the rejection of the claims under 35 U.S.C. 112, first paragraph, should be withdrawn.

Rejection under 35 U.S.C. § 103 should be withdrawn

The Examiner has rejected Claims 13 and 15-18 under 35 U.S.C. §103(a) as allegedly being unpatentable over Miller (Genome Research, 1999) in view of Ramsay (Nature Biotech., 1998). Applicants respectfully disagree and traverse this rejection.

Miller et al. discusses a method for generating consensus sequences wherein raw sequences are masked, clusters are formed and consensus sequences are generated. Miller et al. fails to teach the selection of candidate sequences based on the consensus or exemplar sequences for microarray analysis.

Ramsay reviews probe arrays and their use in gene expression and gene discovery. The Office action indicates that Ramsay teaches that clustered sequences may be analyzed according to probes which target them and points to page 42 of Ramsay's review article. However, Ramsay at page 42 merely discusses various applications of microarrays. There is no specific teaching of analysis of clustered sequences.

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In conclusion, Applicants respectfully submit that because neither the cited references suggest or disclose selection of probes from consensus/exemplar sequences for designing a probe array, the Examiner has failed to establish prima facie obviousness. Therefore, this rejection of Claims 13 and 15-18 under 35 U.S.C. 103(a) should be withdrawn.

The Examiner has rejected Claim 14 under 35 U.S.C. §103(a) as allegedly being unpatentable over Miller (Genome Research, 1999) in view of Ramsay (Nature Biotech., 1998) and further in view of Burke et al. (Genome Research, 1999). Applicants respectfully disagree with the Examiner. As discussed above, Miller et al. in view of Ramsay do not teach the selection of probes from consensus/exemplar sequences for designing a probe array. Burke, et al. teach removing 3' sequences when forming clusters. Therefore, the teachings of Miller et al. in view of Ramsay as applied to Claims 13 and 15-18 and further in view of Burke et al. do not teach or suggest the present invention and all the claim limitations. Accordingly, Applicants respectfully request withdrawal of this rejection of Claim 14.

CONCLUSION


For these reasons, Applicants believe the application is now in condition for allowance and should be passed to issue. If the Examiner feels that a telephone conference would in any way expedite the prosecution of the application, please do not hesitate to call the undersigned at (408) 731-5000.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account 01-0431.

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If the Examiner has any questions pertaining to this application, the Examiner is requested to contact the undersigned attorney.

Respectfully submitted,


Wei Zhou Reg. No. 44,419

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Customer No, 22886
Legal Department
Affymetrix, Inc.
3380 Central Expressway
Santa Clara, CA 95051
Tel: 408-731-5000
Fax: 408-731-5392